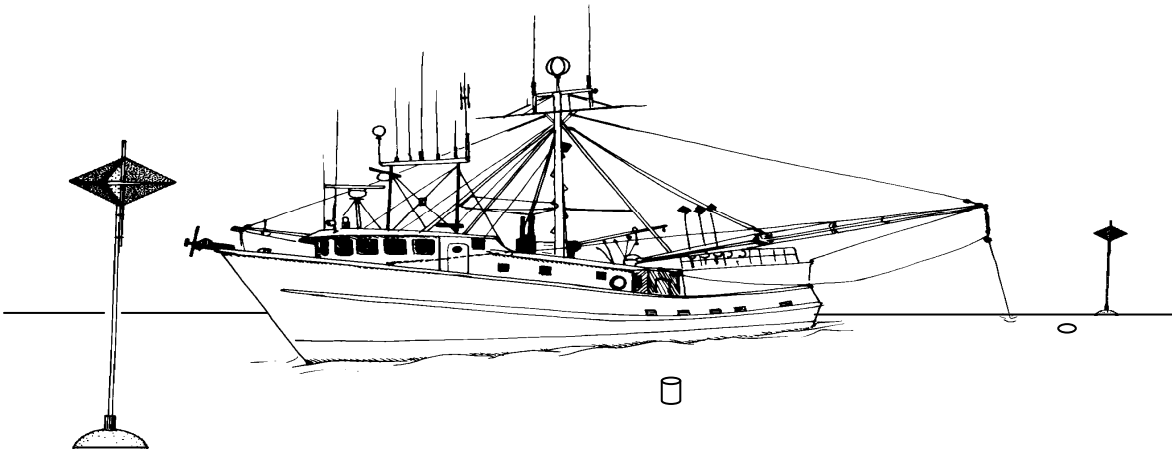




SEFSC PELAGIC OBSERVER PROGRAM DATA SUMMARY FOR 2005 & 2006

Kenneth F. Keene, Lawrence R. Beerkircher, and Dennis W. Lee



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Science Center
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Miami, Florida 33149

May, 2010



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U.S. DEPARTMENT OF COMMERCE
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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Jane Lubchenco., Administrator

NATIONAL MARINE FISHERIES SERVICE
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May, 2010

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COPIES MAY BE OBTAINED BY WRITING:

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Southeast Fisheries Science Center
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Miami, FL 33149
<http://www.sefsc.noaa.gov/pop.jsp>

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Springfield VA 22161
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INTRODUCTION

In 1992, the National Marine Fisheries Service (NMFS) initiated scientific sampling of the U.S. large pelagic fisheries longline fleet, as mandated by the U.S. Swordfish Fisheries Management Plan and subsequently the Atlantic Highly Migratory Species Fishery Management Plan (1998). Scientific observers were placed aboard commercial vessels participating in the Atlantic large pelagic fishery by the Southeast Fisheries Science Center (SEFSC) and the Northeast Fisheries Science Center (NEFSC). In 1997, the SEFSC assumed sole responsibility for observer coverage of the pelagic longline fleet.

As described in previous documents (Keene et al. 2007), observer coverage by the Pelagic Observer Program (POP) since 1992 has been based on NMFS-employed observers, independent contracted personnel, and personnel supplied by observer provider companies. In the summer of 2006 the POP was authorized to retain all of its observers through a contract observer provider, eliminating independent government contracts.

The SEFSC POP trains scientific observers to record detailed information concerning gear characteristics, location and time the gear is set and retrieved, environmental conditions, status and action of the marine life caught by the gear (alive or dead, kept or discarded), as well as morphometric measurements (length and weight) and sex identification of the animal. Observers also record incidental interactions with marine mammals, sea turtles, fishes, and sea birds. Collections of biological samples (anal fin rays, heads, reproductive tissue, biopsy punch tissue samples, vertebral centra, skin patches, otoliths, etc.) from some species are used to support research studies pertaining to identification, biology and life history of fishes, turtles, and mammals. Tags are deployed and recovered when possible and data is returned to the proper science division. Experiments are conducted on occasion by NMFS and other biologists via the POP. The data from these trips are isolated in the database, but continue to further scientific and statistical analyses.

The data collected by the POP are used by scientists in a variety of ways. Observed catch and effort data help confirm and augment the information provided through the mandatory submission of Pelagic Logbook forms by vessel owners and operators. This information is also important in evaluating the effectiveness of management measures, as well as providing information for evaluating the stock status of harvested marine species.

The purpose of this document is to provide a general overview of the POP and summarize the data collected in the northwestern Atlantic by the SEFSC during the years 2005 and 2006.

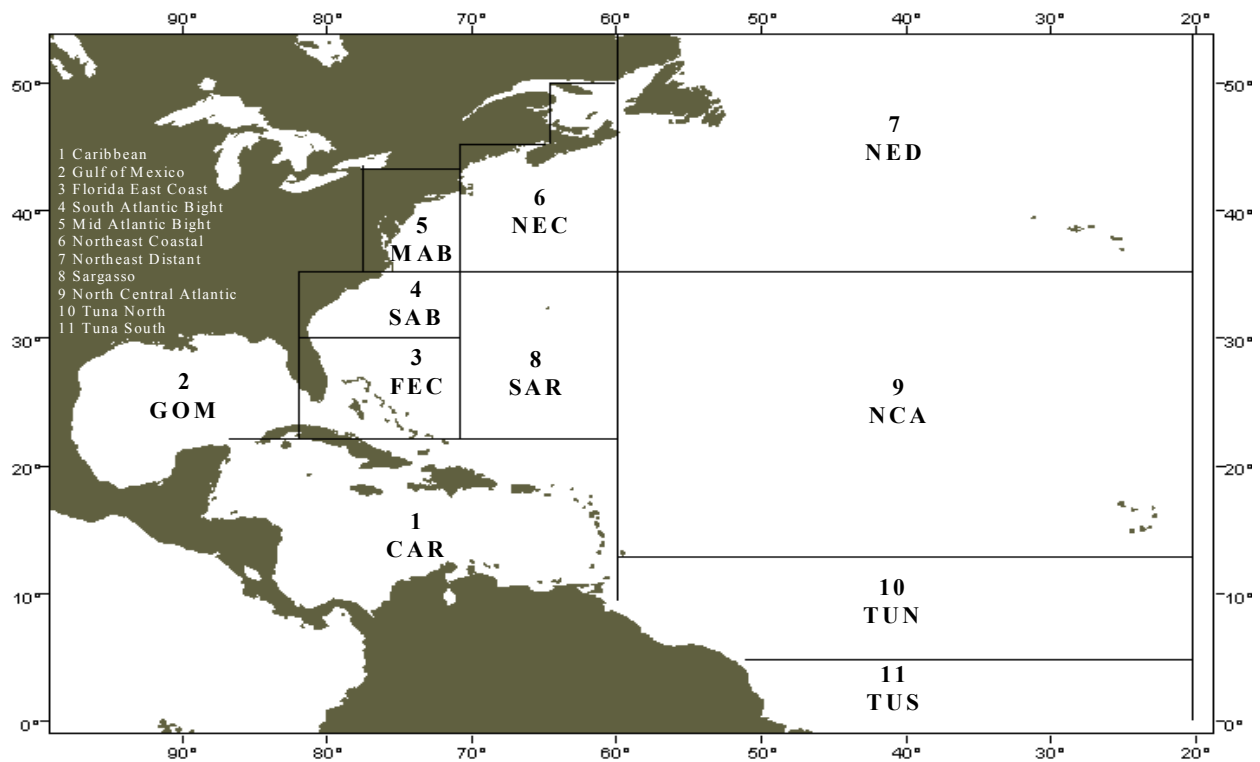


Figure 1. The fishing area definitions used in classifying the U.S. pelagic longline effort.

OBSERVER PERSONNEL

Observers receive training in sampling techniques, animal identification, CPR/First Aid and At Sea Safety, as well as how to conduct themselves professionally in the field. They are also made aware that living conditions aboard ocean-going vessels can be variable (e.g. bunk accommodations, shower or lavatory facilities). While an observer is aboard a vessel, the operator and crew must allow the observer time to collect statistical and biological data. However, any delay in the normal routine of fishing operations or processing of caught fish should be minimal.

VESSEL SELECTION

In order to obtain a representative, scientific sample of the fleet fishing effort, a list of randomly selected pelagic longline vessels with current permits is generated for each geographical area (Figure 1) and quarter for the current year, based upon reports of their effort (number of sets) from the Pelagic Logbook forms and landing records from the previous year.

The objective of the selections during 2005-2006 was to achieve a representative 8% coverage of the fishing effort in each fishing area and during each calendar quarter of the year. The chance of selecting an individual vessel depends on fishing effort that particular vessel reported by area and

quarter in the previous year. Due to the need of a 8% coverage for each quarter and area that the fleet fishes, an individual vessel could be selected for observation as many as four times in a year.

Observer coverage on a vessel becomes mandatory under U.S. fishery regulations [50 CFR 635.7] when vessel owners and operators, permitted for the fishery, are selected and notified in writing. A letter of selection signed by the SEFSC Center Director is mailed to the selected fishery permit holder.

SELECTION LETTER

The SEFSC selection letter (Appendix D) states that the SEFSC must be notified by the vessel permit holder, in writing, of **each fishing trip** the vessel makes during the time period stated in the letter as stated in 50 CFR 635.7. It also specifies the minimum number of sets required by the POP in order for that vessel to fulfill its obligation for observer coverage. Planning and coordination of observer coverage prior to each trip departure is very important. For convenience, each selection letter is mailed with a trip notification form that, when returned prior to a trip, provides the POP staff with written information concerning the vessel's name, captain, phone numbers of contact person(s), communications and safety equipment available aboard the vessel. Information about the vessel's location, dates, and times of departure and return is included as well. The form can also be used to inform the POP staff when a vessel is active in another fishery, under repair, or no longer fishing. The written notification is necessary to document owner or operator efforts to comply with mandatory coverage. Telephone calls are helpful, after written notification, to determine other specific details prior to the deployment of the observer to meet the vessel. It is important to keep in mind that observer coverage by the SEFSC is based on a minimum number of sets per selected vessel (specified in the selection letter) and additional coverage may be required if the trip is shorter than expected.

SAFETY EXAMINATION DECAL

The Observer Health and Safety Regulations [50 CFR 600] became effective in June 1998 and require vessels that are subject to mandatory observer coverage to display a current Commercial Fishing Vessel Safety Examination decal. Formal NMFS notices of the requirement have been distributed to permit holders. Dockside examinations are free and the decal was valid for two years during the time of this memorandum (2005-2006). Vessels owners or operators who need to have their vessels examined in order to comply with the regulations should contact the local U.S. Coast Guard or the observer office for the phone number of the closest Marine Safety Office Dockside Examiner.

VESSEL NON-COMPLIANCE

The Atlantic Highly Migratory Species Fisheries Management Plan [50 CFR 635] specifies that once notified in writing, the permit holder/owner/operator must keep the POP informed of their fishing activities and trip departures during the period of selection. Vessel owners/operators must also understand an observer assigned to monitor a fishing trip can be a **male or female** due to federal regulations prohibiting discrimination in hiring and/or contracting practices. In general, the lack of bathroom facilities, privacy, or sparse living conditions aboard a vessel is not sufficient grounds to prohibit observer coverage by either a male or a female observer. Once arrangements have been made by the SEFSC office to assign an observer to a vessel, the vessel operator must wait until the observer has arrived. Advance notification of departure times and locations can prevent unnecessary delays. If the vessel departs without an observer once coverage has been arranged or if the operator rejects an observer present for boarding, this will be documented and the vessel name will be submitted for non-compliance to the NMFS Southeast Regional Office (SERO), which is responsible for issuing annual permits for participation in the fishery, and to the NMFS Office of Law Enforcement (OLE) responsible for enforcing federal fisheries regulations. Permit holders, owners, and/or operators of vessels can also be reported to SERO for: observer non-compliance for non-communication with the coordinator's office, lack of verbal or written notification of departures or fishing activities, hindrance of the observer in completing his/her data collection duties, and/or harassment of an observer during a trip. Lastly, a permit holder's failure to display a current Commercial Fishing Vessel Safety decal during the selection period will also be reported to OLE. It is the intent of this program to seek a good working relationship between the scientific personnel involved in the data collection and the daily routine of the vessel crew, the observer program personnel do not control actions taken by SERO and NMFS Enforcement office.

DATA COLLECTION FORMS

In order to record data needed to describe the catch and effort of the longline fishery, the POP observer must complete, at the minimum, three data forms (Appendix 1). The first is called the "Longline Gear Log", which is used to record characteristics of the gear used in fishing operations, such as: the type of mainline used, length of drop line, number and length of gangions, make and model of hooks used, as well as the number of floats, high fliers, and radio beacons used. The second data form is the "Longline Haul Log", which is used to describe fishing effort. This form allows the observer to record the length, targeted species, location and time duration for each set and haul-back, as well as environmental information, the speed at which the vessel sets the gear, target species, and type of bait used. The last of the data forms is called the "Individual Animal Log". This data sheet allows the observer to record the species of animal caught, condition of the catch (alive, dead, damaged, or unknown) when brought to the vessel, and the final disposition of the catch (kept, thrown-back, finned, etc.). If an animal is brought onboard the vessel, the observer will verify species identification, identify sex, and record length measurements. A final weight of a retained animal is recorded during unloading at the dock. This weight is matched to the length measurements on the data sheets using a specially numbered tag to identify the carcass of primary interest.

DATA SUMMARY

2005-2006

Vessel Coverage

From January 1, 2005 to December 31, 2006, 188 pelagic longline trips were observed in waters of the northwest Atlantic Ocean (Table 1). Of the trips monitored, a total of 75 vessels were observed at least once during this time period. In total, observers spent 2,190 days-at-sea during which 1366 sets and 1366 hauls were observed (Figure 2 and Table 1). POP procedure is to count any haul that is interrupted intentionally to allow the gear to soak longer, or that is interrupted for weather or mechanical problems for longer than 6 hours, as a “split haul” (i.e. a single set that has two or more hauls associated with it).

Based on the POP experience, scheduling fishing and fishing trips are not always predictable. Excluding the difficulties of communication with owners or operators concerning fishing trip departures, scheduling of an observed trip on any selected vessel can also be hindered by mechanical repairs, weather, crew or captain replacement, activity in another fishery, as well as availability of an observer. Given the transit time to and from the fishing grounds and the effort (in days) spent fishing; a POP observer spent an average of 1.6 days at sea for each set observed (Figure 4, Table 1).

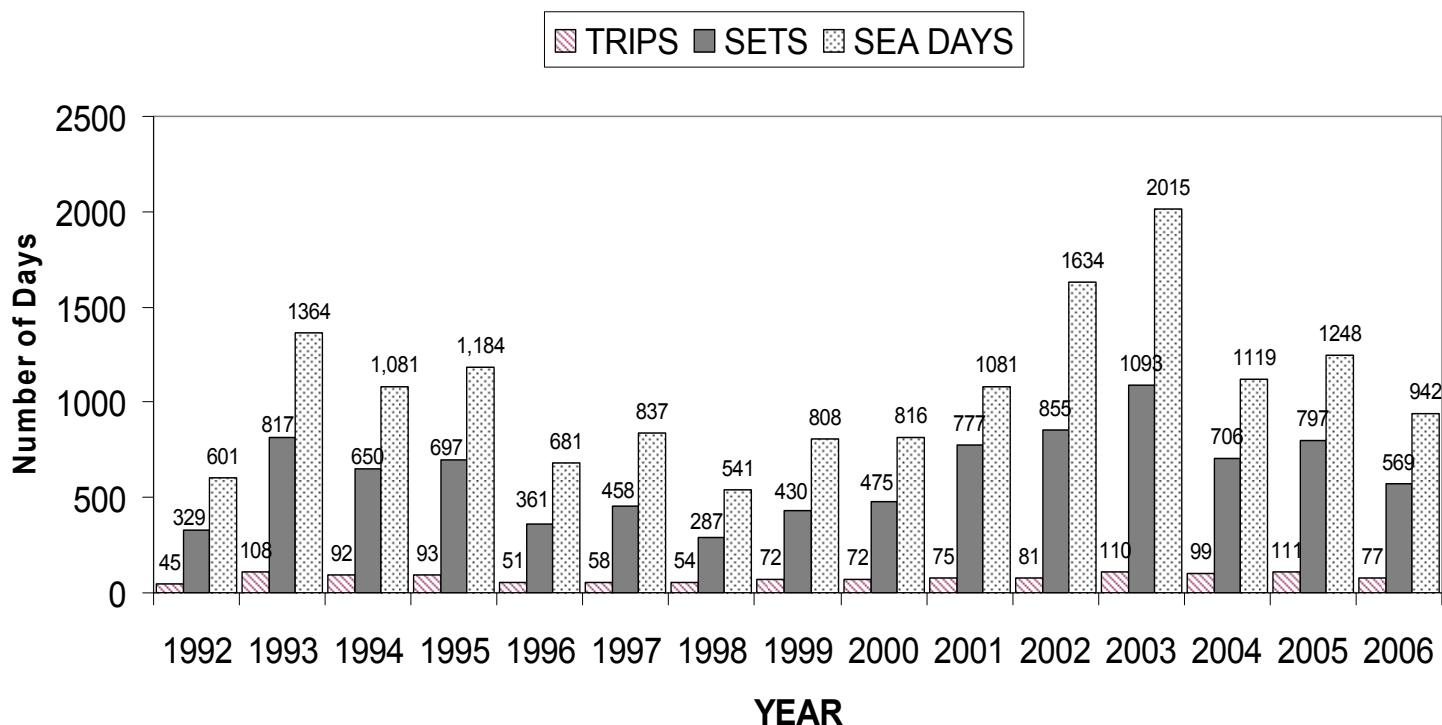


Figure 2. POP observer effort, 1992 - 2006.

In the interest of simplicity, combined data from both the experimental and the regular fishery are presented in this summary. Experimental fisheries typically had enhanced observer coverage, thus increasing total observed effort (Keene et al., 2007). Years having experimental efforts include 2001, 2002, 2003, 2004, and 2005.

The average percent coverage was over 6 percent (6.16%) for all years combined (Figure 5). The years in Figure 5 when the percent coverage was over 5 percent (1993-1995), both regional observer programs were operating at funding levels of about \$1.2 million per year. The variation in the percent coverage during 1996-2006 reflects variable funding and fleet participation.

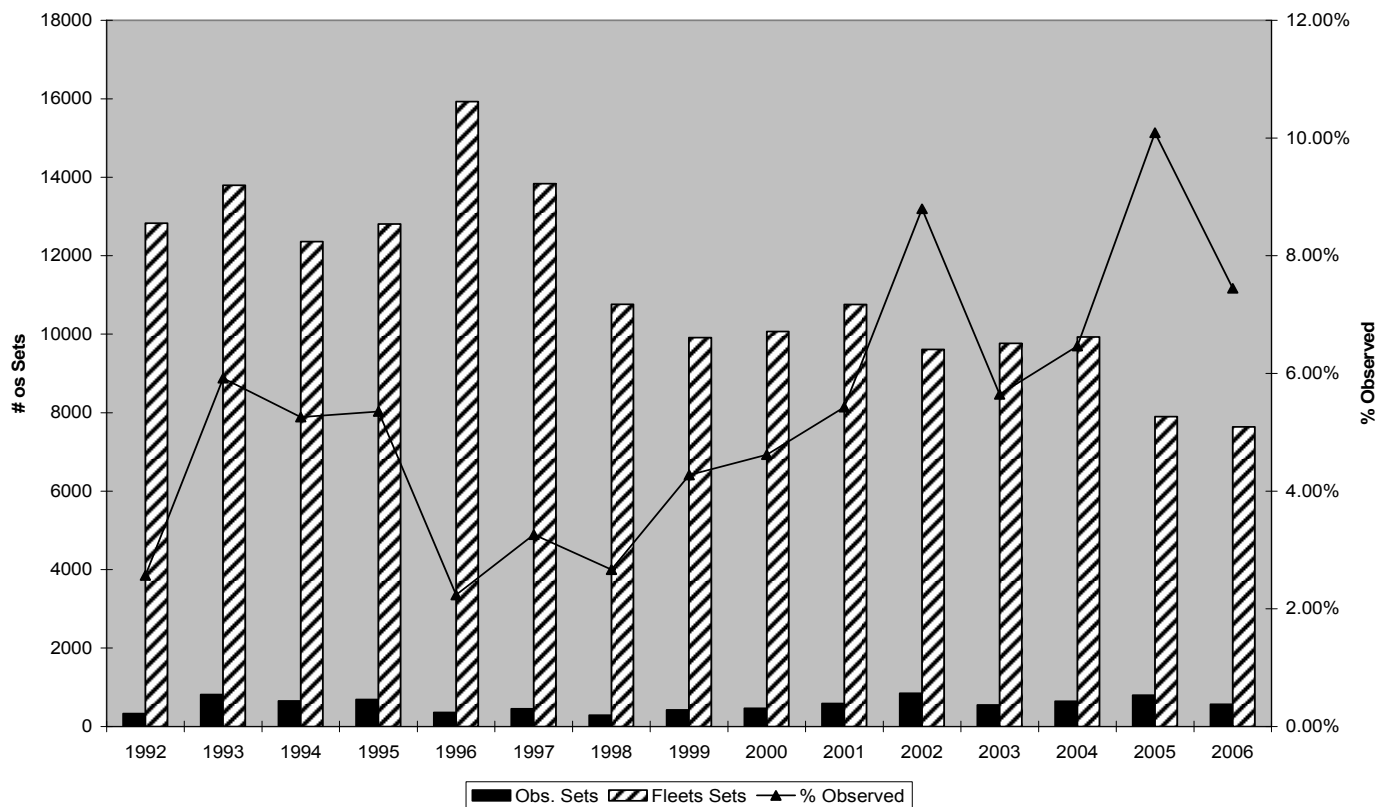


Figure 3. Comparison of total observed sets recorded by the POP, the sets reported by the U.S. pelagic longline fleet through pelagic logbook forms, and percent coverage achieved by year, 1992 - 2006.

Longline Bycatch Reduction Research Project

In 2005, a joint research project involving the Fisheries Research Institute, NOAA Pelagic Observer Program, Aquatic Release Conservation, College of William and Mary, Johnson Controls, SeaShare, University of California, and University of Miami took place. The research objective was to evaluate pelagic longline bycatch reduction technology in the Gulf of Mexico, Florida East Coast, South Atlantic Bight, Mid Atlantic Bight, and New England Coastal Management Areas. The experimental design involved evaluating bycatch reduction for different hook criteria (size and offset) and baiting

techniques. Hook size and bait species were selected based on the target fishery standards for bigeye tuna, yellowfin tuna, and swordfish. Evaluating the effectiveness of line cutters and dehookers was integrated into this study as well. Complete analysis of the collected data is still underway.

Species Observed

The presence of a scientific observer onboard a commercial longline vessel provides an opportunity for collecting valuable information for monitoring both the fishery and the stocks being harvested. The data forms provide scientists with basic information concerning gear configuration, baits used, number of hooks set, and the environmental parameters associated with a particular set. Equally important, the observers record data concerning the species of fish encountered, their size, sex and status (kept, discarded, etc).

Data collected during a fishing trip are entered into a computer usually within 7 days of the observer's return to port. Data are screened for accuracy during the debriefing meeting with the observer followed by data entry. Audit programs used by the POP help catch data entry errors. Because of the ongoing refinement of the quality assurance programs, the accuracy of the observer database is increasingly improved over time.

Summarizing the 2005-2006 catch data, observer personnel identified a total of 45,446 fish, marine mammals, sea turtles and birds (Figure 6; Tables 2 and 3).

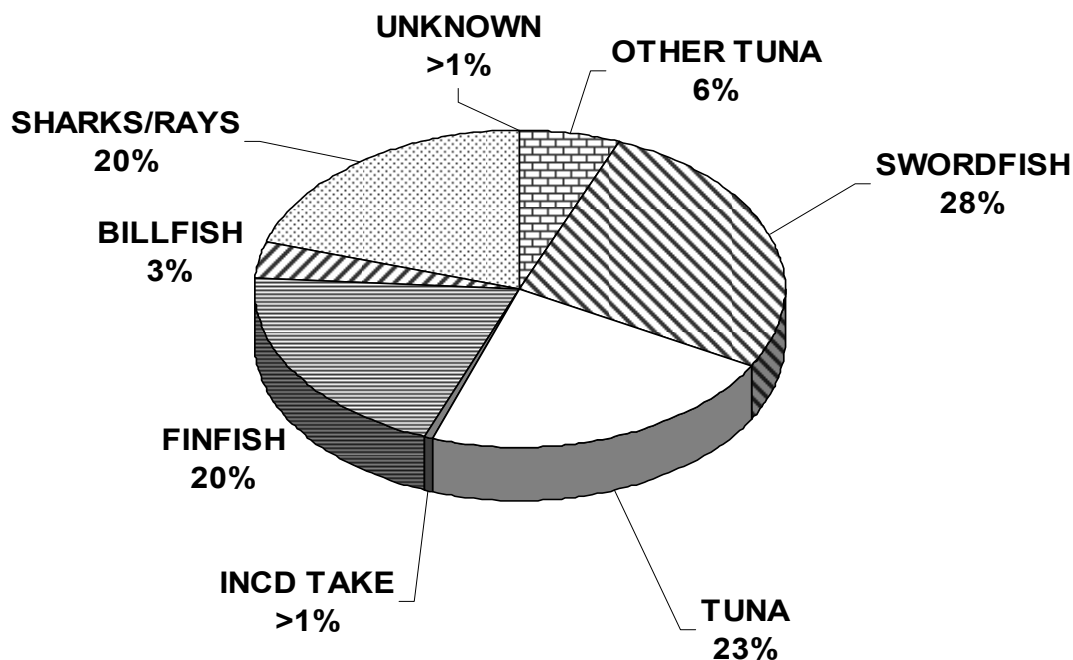


Figure 4. Species composition of the 45,446 identified animals observed by general category groups by the POP, 2005-2006. The incidental take (marine mammals, turtles, and sea birds) represents less than 1% of the total catch documented in the POP database. The tuna category is comprised of yellowfin, bigeye and bluefin.

This total includes 18 animals in the “UNKNOWN” category that could only be identified to a general fish category, (i.e. unknown tuna, unknown shark, etc) but the observer was able to determine the alive/dead status. In addition, the Incidental Take (INCD TAKE) (Figure 6; Table 3) includes 47 marine mammals (4% released dead), 155 sea turtles (1% released dead), and 7 seabirds (71% released dead).

Although a wide variety of fish were caught by the observed longline vessels, only about nine species were routinely valued by the fishery as a marketable product (>50% landed were kept). These primary species (swordfish, yellowfin tuna, bigeye tuna, mahi-mahi, wahoo, escolar, albacore, sandbar shark and shortfin mako shark) comprise about 65% by number (N=29206) of the total observed catch. Of the total identified fishes observed (Figure 6), swordfish made up 28% by number of the catch; while yellowfin, bigeye, and bluefin tunas, combined, made up 23% by number of the observed catch. Bluefin tuna is a highly marketable species in this fishery, but due to retention limitations few were kept (<19%).

Observation of the status (alive/dead) of fish caught is an important component needed for assessing the effectiveness of some fishery management tools, like minimum sizes. The observer records the status (alive, dead, damaged) of the fish as it is brought alongside the vessel (Tables 2 and 3) and whether it is kept or thrown back. From these data, mortality of discards can be estimated (Table 4). In general, these proportions are similar to the alive/dead proportions for various Atlantic pelagic species caught on longline reported in the literature (Farber and Lee 1991; Hoey 1992; Lee et al. 1995).

Gear Characteristics

Observer coverage took place in 10 of the 11 geographical areas of the fishery. As an overview of the observed longline gear deployed, the shortest average length of mainline set on an observed trip was 9.5 nautical miles (NM) while the longest average set during a trip was 44.2 NM. Additionally, during the 1,366 hauls observed, a total of 1,021,003 hooks were recorded (Table 1).

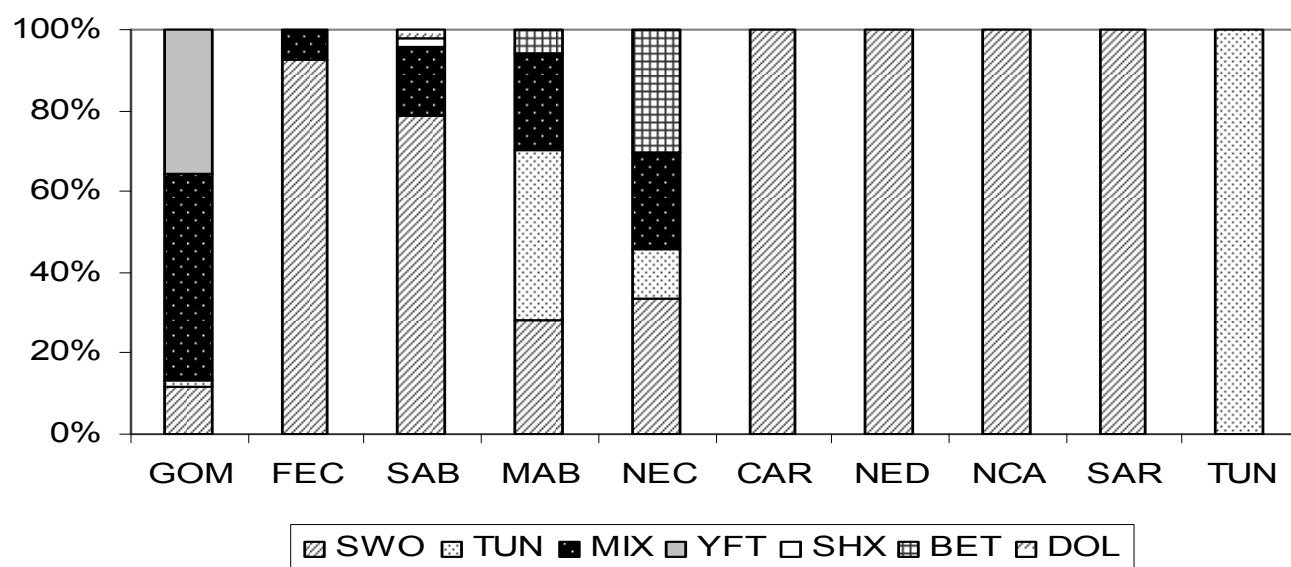


Figure 5. Indicated target species for hauls observed, by area (see Fig. 1). SWO=swordfish, TUN=mixed tunas, MIX=any combination (usually a combination of swordfish and a tuna species), YFT=yellowfin, SHX=sharks, BET=bigeye tuna, and DOL=mahi-mahi. TUN is not shown since there were no hauls in this area during this time.

Indicated target species for hauls was highly variable among different areas. The CAR, NED, SAR and NCA areas had SWO as the target species in 100% of the hauls observed. Tuna was targeted 100% of the time in the TUN area (Figure 5).

Variation in gear construction influencing hook fishing depth (i.e. length of float line plus length of gangion) is quite variable among vessel operators. It should be understood that actual fishing depth of the baited hook is unknown due to influences by line sag, ocean currents and environmental conditions. However, given an assumed fishing depth based on float line and gangion length, three general groupings can be found depending on the geographic areas where fishing takes place.

The average minimum and maximum depths of the baited hooks are similar for the MAB, NEC, SAB, and NED (Table 5), with a range from 1 to 27 fathoms (2-49 m) for the four geographical areas. The 1 fathom depths represent mahi (*Coryphaena hippurus*) directed sets, which set much shallower. Generally speaking, observed vessels fishing in the waters of the SAB, MAB, and NEC target more on tuna species while the NED is typically directed more at swordfish (Fig. 6). The 70 fathom hook depth in the GOM only occurred on 5 hauls, the next highest hook depth average was 45 fathoms for that area.

Observers also recorded various kinds of bait (species) used during fishing activities. Generally speaking, the technique of fishing “dead bait” (bait brought aboard the vessel frozen and then thawed prior to use) is the prevalent bait method used in all geographical areas (Table 5). On any given set, most crews fish a single species of bait. The primary “dead bait” species recorded for observed sets were

Atlantic mackerel (*Scomber scombrus*) and squid (*Illex* spp). Other frozen baits recorded on some of the trips observed, were from the Clupeidae (herring or shad) or Carangidae (scad) families.

As previously reported in Keene et al. (2007), squid and mackerel continue to be the preferred bait kind (>80% of hauls observed) associated with the “dead bait” technique observed in the longline fishery for all areas (Table 5), with squid being the most common bait in all geographical areas. Historically in the GOM area a “live bait” technique was used generally by Vietnamese-American fishers targeting primarily yellowfin tuna. Regulations that became effective September 1, 2000, prohibited the use of live bait on pelagic longlines in the Gulf of Mexico in order to reduce bycatch.

RECENT POP RESEARCH STUDIES UNDERWAY

Numerous analyses of the POP data are conducted in support of determining the status of fishery resources. However, POP observers also aid in the collection of biological samples. Below are summarized a few POP research studies underway or recently completed making use of the specimen materials collected through the POP.

Shark Age and Growth

In 1999 the POP began collecting vertebral centra from sharks; samples (primarily from silky, blue, and shortfin mako sharks) were sent to Dr. John Carlson of the SEFSC Panama City laboratory. Information from these centra and other collection efforts will be used by Dr. Carlson to develop or update age and growth models for future shark population assessments.

Tag Release and Recapture

The Cooperative Tagging Center (CTC) is located at the SEFSC, Miami, FL. The purpose of the CTC is to provide tags to those wishing to participate in the tag release program, and to collect, archive, and analyze data collected from returned specimens. In order to study movements, as well as gain insight into growth rate, longevity, and mortality rates of highly migratory species, the CTC needs the assistance of individuals and organizations that are willing to tag on a voluntary basis. The Pelagic Observer Program (POP) is the CTC contact for the commercial fishing community. For the purpose of providing a large number of tags (not to exceed 50 tags per request) to the commercial fishing community, fishermen are asked to contact the POP. For persons tagging for the first time, a form will be provided which will need to be completed and mailed to the SEFSC. Once the form has been received, a minimum of 25 tags will be provided the first time. If a tagger is already in the CTC database, up to 50 tags may be issued at one time. Keep in mind, however, that the SEFSC reserves the right to limit tag quantity provided.

The Apex Predator Program is located at the Narragansett Laboratory, Narragansett, Rhode

Island. This program is similar to the CTC but the focus is on sharks. For more information on shark tagging, contact Lisa Natanson at 401-782-3320.

Many state governments have initiated tagging programs, and the resulting tags have been recovered on observed longline trips. These programs were initiated to track and gather data on fish that travel within state waters, such as the common dolphinfish (*Coryphaena hippurus*). International fish tags are also recovered aboard observed trips. Various groups such as the International Commission for the Conservation of Atlantic Tunas (ICCAT) and the Inter-American Tropical Tuna Commission (IATTC) fund programs that tag highly migratory fishes for research.

As mentioned, tag recaptured fish are extremely important in providing information needed for studies of age, growth, migration and mortality rates of fish populations. Because the observer or the captain and crew do not have ready access to tag release data, all dead fish with a tag are considered extremely important and reported appropriately. Examples of the types of information obtained from recaptured fish follow:

- 1) A tag-recaptured blue shark was caught in August 2005 by a longline vessel while a POP observer was aboard. From the tag recapture number (#282103), it was determined that the blue shark had been at large for over 735 days and traveled 193 miles.
- 2) A longline vessel recaptured a shortfin mako shark in August of 2005. The fish had been at-large for only 10 days, but traveled 213 miles. Tag number 285512.

The above are a few of the interesting tag recaptures that took place with a POP observer on board the vessel. It is important for everyone to understand that the recapture of a tagged fish can be a treasure chest of information and lend much insight into the life history biology of a fish. In some cases, it can extend what we know about a fish's longevity. We appreciate all those that do participate and are willing to assist anyone who wants to get started.

ACKNOWLEDGMENTS

The SEFSC Pelagic Observer Program is grateful to vessel owners, operators, and crews that have participated in the observer program. Without their overall cooperation, the collection of catch and effort data, as well as biological samples would have been difficult. Special acknowledgment is given to the help provided by observer personnel of the SEFSC and NEFSC, as well as observer personnel from Manomet Observatory, RRA, FONAIAP, Johnson Controls Inc (JCI) and IAP World Services Inc.

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Hoey, J.J. 1992. Bycatch in U.S. Atlantic longline fisheries for swordfish and tuna. Blue Water Fishermen's Association Newsletter, March 16, 1992. 7p.

Lee, D.W., C.J. Brown, and T.L. Jordan. 1995. SEFSC pelagic longline observer program data summary for 1992-1994. NOAA Technical Memorandum NMFS-SEFSC-373. 19p.

For more information

Information on the observer program or for scheduling an observer trip, please contact the Pelagic Observer Program:

(Office) 800 858-0624 (FAX) 305 361-4282

Address: Southeast Fisheries Science Center
SEFSC
75 Virginia Beach Drive
Miami, FL 33149

General information or questions about programs concerning HMS dealer reporting, HMS logbook submission, or the tagging program, persons should contact the following NMFS contact persons:

DEALER REPORTING: Heather Balchowsky 305-361-4239
PELAGIC LOGBOOK REPORTING: Matt Maiello 305-361-4574
GAMEFISH TAGGING PROGRAM (CTC): Dr. Eric Prince 800-473-3936
APEX predators program (shark tagging): Dr. Lisa Natanson 401-782-3320

Information on fishing permits or regulation should be directed to the NMFS Southeast Regional Office, St. Petersburg, FL. or Northeast Regional Office Gloucester, MA.

REGULATIONS BRANCH: (727) 551-5305
PERMITS BRANCH: (727) 824-5326

National Marine Fisheries Service
Southeast Regional Office
9721 Executive Center Drive, N
St. Petersburg, FL 33702

TUNA PERMITS: 1-888-872-8862 (automated)

National Marine Fisheries Service
Northeast Regional Office
1 Blackburn Drive
Gloucester, MA 01930

Highly Migratory Species (HMS) regulatory information can also be found on the internet at:

<http://www.nmfs.noaa.gov/sfa/hms/>

Table 1. Number of vessels covered, trips, sets observed, days spent at sea, total hooks set, and percent of sets observed from the total sets required for 5% coverage (8% starting in 2002) of the fishing effort, 1992-2006.

POP OBSERVER COVERAGE 1992-2006						
YEAR	VESSELS COVERED	TRIPS	SETS OBSERVED	DAYS AT SEA	TOTAL HOOKS SET	% of SETS REQUIRED ¹
1992	42	45	329	601	197,919	51%
1993	82	108	817	1364	534,969	>100%
1994	75	92	650	1,081	419,105	>100%
1995	74	93	697	1,184	487,326	>100%
1996	47	51	361	681	223,387	45%
1997	53	58	458	837	315,592	66%
1998	49	54	287	541	180,962	53%
1999	55	72	430	808	291,553	86%
2000	62	72	475	816	330,373	92%
2001	57	75	777	1081	455,136	>100%
2002	46	81	855	1634	707,187	>100%
2003	57	110	1093	2015	1,013,676	71%
2004	64	99	706	1019	535,567	81%
2005	59	111	797	1248	589,547	>100%
2006	59	77	569	942	431,456	93%
OVERALL YEARLY MEAN:	874 ² 59	1198 80	9,301 620	15,852 1057	6,713,755 447,584	N/A 87%

¹ % of Sets Targeted = (Sets Observed/Sets Targeted) x 100

² Overall Vessels Observed includes no duplications among years. Yearly totals of Vessels Observed include no duplications within that year.

Table 2. Numbers of alive, dead, and damaged (shark bitten, etc) swordfish, billfish, tunas, and sharks when brought alongside the the boat as recorded by POP observers while deployed aboard U.S. commercial longline vessels, 2005-2006. Does not include animals whose status was unknown (<1% of all animals observed).

GROUP	COMMON NAME	ALIVE	DEAD	DAMAGED
SWORDFISH	SWORDFISH	3,310	8,228	663
TUNA	BIGEYE TUNA	1,122	705	144
	YELLOWFIN TUNA	4,514	2,626	539
	BLUEFIN TUNA	161	199	12
BILLFISH	ATLANTIC SAILFISH	214	112	4
	BLUE MARLIN	264	100	2
	SPEARFISH SPP.	21	3	0
	SPEARFISH LONGBILL	5	6	0
	SPEARFISH ROUNDSCALE	25	40	0
	WHITE MARLIN	379	182	4
SHARKS/RAYS				
Small Coastal	ATLANTIC SHARPNOSE	1	0	0
Large Coastal	BULL	10	0	0
	HAMMERHEAD SPP.	11	7	0
	HAMMERHEAD SMOOTH	1	4	0
	HAMMERHEAD SCALLOPED	94	100	3
	HAMMERHEAD GREAT	2	0	0
	NURSE	4	0	0
	SANDBAR	82	40	0
	SILKY	381	322	7
	SPINNER	0	1	0
	TIGER	489	25	1
Pelagic	BLUE	2,597	347	4
	THRESHER COMMON	20	9	0
	MAKO SPP.	13	7	0
	MAKO SHORTFIN	403	208	7
	WHITETIP OCEANIC	57	17	0
	PORBEAGLE	50	18	0
	THRESHER SPP.	26	38	1
Prohibited	BASKING	0	1	0
	BIGNOSE	2	2	0
	DUSKY	123	47	0
	NIGHT	174	503	23
	MAKO LONGFIN	33	30	0
	THRESHER BIGEYE	98	74	1

Others	DOGFISH COLLARED	2	2	0
	DOGFISH SPINEY	13	1	0
	DOGFISH UNCLASSIFIED	0	1	0
	RAY MANTA	199	4	1
	RAY PELAGIC (STINGRAY)	1,795	1	0
	SHARKS REQUIEM	213	180	3
	SKATES/RAYS	19	1	0

Table 3. Numbers of alive, dead, and damaged (shark bitten etc.) other tunas, finfish, marine mammals, marine turtles, seabirds and unknown species groups when brought alongside the boat as recorded by POP observers while deployed aboard U.S. commercial longline vessels, 2005-2006. Does not include animals whose status was unknown (<1% of all animals observed)

GROUP	COMMON NAME	ALIVE	DEAD	DAMAGED
TUNA OTHER	ALBACORE	131	730	55
	BLACKFIN TUNA	382	422	33
	BONITO	0	0	3
	LITTLE TUNY	2	7	0
	SKIPJACK TUNA	44	715	15
FINFISH	BARRACUDA	122	10	3
	BLUEFISH	0	0	1
	BLUELINE TILEFISH	1	0	0
	CIGARFISH SPP.	6	6	0
	DEALFISH	0	3	0
	DOLPHIN SPP.	2,990	478	40
	ESCOLAR	1,001	504	32
	GOOSEFISH	1	0	0
	LANCETFISH SPP.	192	2,731	97
	MACKEREL KING	0	7	0
	MAKERAL SNAKE	14	48	2
	OILFISH	105	51	3
	OPAH	2	11	0
	PUFFER SPP.	25	3	0
	POMFRET SPP.	63	45	1
	RAINBOW RUNNER	1	0	0
	REMORA	4	0	0
	SUNFISH OCEAN	12	0	0
	SUNFISH SHARPTAIL	40	0	0
	SUNFISH SPP.	32	0	0
	TRIPLETAIL	2	0	0
	WAHOO	92	356	24
MARINE MAMMAL	DOLPHIN ATLANTIC SPOTTED	1	0	0
	PILOT WHALE SHORTFIN	1	0	0
	PILOT WHALE	36	1	0

	MARINE MAMMAL	1	1	0
	DOLPHIN RISSOS	2	0	0
	DOLPHIN BOTTLENOSE	1	0	0
	DOLPHIN	2	0	0
MARINE TURTLE	KEMPS RIDLEY	1	0	0
	TURTLE LOGGERHEAD	71	0	0
	TURTLE LEATHERBACK	81	2	0
SEA BIRD	SHEARWATER GREATER	1	3	0
	SHEARWATER SPP.	1	0	0
	SHEARWATER CORYS	0	1	0
	GULL HERRING	0	1	0
UNKOWN	BILLFISH	146	40	7
	SHARK	227	46	2
	TUNA	29	9	176
	UNKNOWN	75	8	2

Table 4. Discards of alive and dead fish of 6 species recorded by POP observers while deployed aboard U.S. commercial longline vessels, 2005-2006.

COMMON NAME	DISCARDED		PROPORTION DEAD $\frac{D}{D + A}$
	ALIVE (A)	DEAD (D)	
Swordfish	1209	3468	0.7415
Bigeye Tuna	68	179	0.7247
Yellowfin Tuna	217	634	0.7450
Blue Marlin	253	101	0.2853
White Marlin	363	180	0.3315
Sailfish	214	115	0.3495
Blue Shark	2502	351	0.1230
Makoshark Shortfin	120	82	0.4059
Makoshark Longfin	31	32	0.5079

Table 5. Average hook depth (minimum and maximum in fathoms) and kind of baits observed on U.S. commercial longline vessels by geographical area, 2005-2006. Baits used were: Atlantic mackerel (*Scomber scombrus*)=M, squid (*Illex sp.*)=Sq, herring (*Clupeidae sp.*)=H, Spanish sardine (*Sardinella aurita*)=Sa, bigeye scad (*Selar crumenophthalmus*)=Sc, and other =O (species not identified or artificial bait used). All hooks used were circle hooks, and were either size 15/0, 16/0, or 18/0.

Areas Fished	Total Hauls	Average Hook Depth (fathoms)		Bait Kind (by number of sets)						Hook Size (%)		
		MIN	MAX	M	Sq	H	Sa	Sc	O	15/0	16/0	18/0
CAR	10	30	37	10	10							100%
GOM	717	14	70	99	571	51	277		3	<1%	86%	13%
FEC	91	14	27	100	90						18%	82%
SAB	142	1	22	199	125			3	7		22%	78%
MAB	190	3	23	128	236		1		4		26%	74%
NEC	96	7	27	79	139						15%	85%
NED	62	6	9	82	25							100%
SAR	37	22	22	26	37							100%
NCA	16	22	37	16	16							100%
TUN	10	20	25		4			11	3		100%	

Appendix 1.

(A) Longline gear characteristics log form

PELAGIC OBSERVER PROGRAM

LONGLINE GEAR LOG

SE FISHERIES SCIENCE CENTER

OBS/TRIP NUMBER		VESSEL NUMBER		VESSEL NAME		DATE LANDED mm/dd/yyyy	
STRING NUMBER		NUMBER OF HOOKS		ANCHOR USED? NO _____ YES _____		WEIGHT _____ lbs	
MAINLINE COLOR _____ DIAMETER _____ mm Clear 01 _____ White 02 _____ TEST _____ lbs Pink 03 _____ Black 04 _____ MATERIAL Green 05 _____ Nylon 1 _____ Blue 06 _____ Cotton 2 _____ Multi-color 07 _____ Steel Wire 3 _____ Red 08 _____ Other 9 _____ Other 09 _____ # OF STRANDS _____				FLOATS TYPE USED? NUMBER DISTANCE NO=0 YES=1 BETWEEN Polyball _____ Bullet/Daub _____ Other _____ MAX HOOKS BETWEEN _____ RADIO BEACONS _____ RADAR REFLECTORS _____ SECTIONS _____ nm		LIGHT STICKS USED? NO _____ YES _____ COLOR White 02 _____ Pink 03 _____ Black 04 _____ Green 05 _____ Blue 06 _____ Multi-color 07 _____ Red 08 _____ Other 09 _____ Yellow 10 _____ Purple 11 _____	
GANGIONS COLOR _____ DIAMETER _____ mm Clear 01 _____ White 02 _____ TEST _____ lbs Pink 03 _____ Black 04 _____ MATERIAL Green 05 _____ Nylon 1 _____ Blue 06 _____ Cotton 2 _____ Multi-color 07 _____ Steel Wire 3 _____ Red 08 _____ Other 9 _____ Other 09 _____ DISTANCE BETWEEN _____ ft				GANGION LENGTH _____ GANGION COUNT _____ #1 _____ ft _____ #2 _____ ft _____ LEADER LENGTH _____ in LEADER TEST _____ lbs LEADER MATERIAL Nylon 1 _____ Cotton 2 _____ Steel Wire 3 _____ Other 9 _____		LEADERS USED? NO=0, YES=1 SWIVELS USED? NO=0, YES=1 NUMBER SWIVELS/ GANGION _____	
DROPLINES LENGTH DISTANCE BETWEEN #1 _____ ft _____ ft #2 _____ ft _____ ft #3 _____ ft _____ ft		HOOKS BRAND MODEL/PATTERN SIZE OFFSET HOOK #1 _____ / _____ ° HOOK #2 _____ / _____ ° HOOK #3 _____ / _____ °					

(B) Longline haul log form

RELAGIC LONGLINE OBSERVER PROGRAM				LONGLINE HAUL LOG				SOUTHEAST FISHERIES SCIENCE CENTER						
OBS/TRIP ID		VESSEL NAME		VESSEL NUMBER		DATE LANDED <small>mm/dd/yyyy</small>		HAUL #	GEAR CODE	PAGE # <small>1 OF _____</small>				
HAUL OBS?		CATCH?	INC TAKE?	WEATHER	SPEED		WIND	WAVE HEIGHT	REVERSE HAUL?	GEAR COND	STRING NUMBER			
NO 0 _____ YES 1 _____		NO 0 _____ YES 1 _____	NO 0 _____ YES 1 _____		KN		DIRECTION	FT	YES 1 _____					
MAINLINE LENGTH		SET SPEED		BOTTOM DEPTH RANGE		HOOK DEPTH RANGE		TOTAL ADD. WEIGHT		TARGET SPECIES ABBR.	SOAK DURATION			
_____		_____		_____		_____		_____ LBS		_____	_____			
_____ NM		_____ KM		_____ FM		_____ FM								
ITEMS USED?				NUMBER OF HOOKS				BAIT INFORMATION						
TYPE		NO		YES		NUMBER		NUMBER		LBS		KIND	TYPE	COND
Floats		0 _____		1 _____				SET						
Light Sticks		0 _____		1 _____										
Rattlers		0 _____		1 _____				LOST						
Surface Lights		0 _____		1 _____										
Radio Beacons		0 _____		1 _____				TENDED						
Radar Reflectors		0 _____		1 _____										
Additional Line Wts.		0 _____		1 _____				REBATED						
SET/HAUL		DATE	TIME	POSITION		INFORMATION		TEMP		DURATION				
INFO		mm/dd/yyyy	24 hours	BEARING/LATITUDE		N OR S		BEARING/LONGITUDE		E OR W		fahrenheit	hours	
S BEGIN														
E END														
T BEGIN														
H BEGIN														
A BEGIN														
U END														
L														
COMMENTS: NO 0 _____ YES 1 _____														

1/1/2000

(C) Large pelagics individual animal log form.

[illegible]

(D) SELECTION LETTER



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Fisheries Center
Miami Laboratory
75 Virginia Beach Drive
Miami, FL 33149

December 15, 2006

F/V (VESSEL NAME)

Dear Permit Holder:

In accordance with the federal Atlantic Highly Migratory Species regulations, 50 CFR 635.7, your vessel (VESSEL CODE) has been selected for observer coverage. The regulation requires that you contact the Southeast Fisheries Science Center's Miami Laboratory, in writing, at least five business days in advance of each trip your vessel makes within the period **January 1 through March 31, 2007**. Failure to call the Observer Program in advance of each departure could result in enforcement action. Based on past logbook reports the Observer Program expects a minimum coverage of (**# SETS REQUIRED**) set(s) while the observer is assigned to your vessel. The observer will remain in the area to complete the required sets at the discretion of the Program Coordinators. You must report the following:

- (1) Departure information (port, dock, date, and time); and
- (2) Expected landing information (port, dock, and date).

Please provide this information to:

Observer Program Coordinator
75 Virginia Beach Drive
Miami, FL 33149

FAX (305) 361-4282
PHONE 1-800-858-0624

You may report this information by facsimile (FAX). For any notification received outside federal business hours (8:00 am - 4:30 PM Monday through Friday), the five-day notification period will not start until 8:00 am of the next federal working day.

Once a NMFS certified observer is placed on board your vessel, you no longer need to provide the above information unless you receive a subsequent notice of vessel selection for a period different than specified above.



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**National Marine Fisheries Service
Southeast Fisheries Science Center
75 Virginia Beach Drive
Miami, FL 33149**